

AMENDMENTS TO THE CLAIMS

1. (Currently amended) A piston type pumping apparatus configured for pumping a liquid, comprising:

a vertically oriented cylinder having a top and a bottom;

a first passageway for liquid in the vertically oriented cylinder, wherein the first passageway is adjacent to the top thereof of the vertically oriented cylinder;

a second passageway for liquid hydraulic fluid in the vertically oriented cylinder, wherein the second passageway is adjacent to the bottom thereof of the vertically oriented cylinder;

a piston reciprocatingly mounted within the vertically oriented cylinder, the piston having a top surface configured to be in contact with liquid in the vertically oriented cylinder, the piston further having a bottom surface configured to be in contact with a hydraulic fluid acting against the bottom surface of the piston and having an area against which pressurized fluid acts in the a direction of movement of the piston;

a ~~hollow~~ piston rod connected to the piston and extending slidably and sealingly through ~~an~~ a first aperture in the bottom of the vertically oriented cylinder, wherein the piston rod has a bottom surface;

a reload chamber situated below the vertically oriented cylinder, the piston rod extending slidably and sealingly into the reload chamber through a second aperture in the reload chamber, the piston rod and having a third passageway for liquid extending from the bottom surface of the piston rod to the top surface of the piston, such that the piston rod connected to the piston is configured to permit passage of liquid therethrough communicating with the reload chamber, wherein the bottom surface of the piston rod having a smaller area is situated within the reload chamber, wherein the bottom surface of the piston rod is configured such that liquid upon which pressurized fluid in the reload chamber acts upwardly against the bottom surface of the piston rod in a direction of movement of the piston and piston rod compared to said area of the piston, and wherein the bottom surface of the piston rod has an area smaller than the top surface of the piston, whereby liquid in the vertically oriented cylinder acting downwardly on the top surface of

the piston exerts a greater force on the top surface of the piston than liquid in the reload chamber acting against the bottom surface of the piston rod;

a first one-way valve ~~located~~ situated in the third passageway ~~which permits configured to permit~~ liquid to flow from the reload chamber into the piston rod ~~and piston and prevents which is configured to prevent~~ liquid from flowing from the piston rod ~~and piston~~ into the reload chamber;

a fourth passageway configured for passage of liquid extending from into the reload chamber ~~to from~~ a source of liquid to be pumped;

a second one-way valve in the fourth passageway ~~which permits configured to permit~~ liquid to flow from the source of liquid into the reload chamber and ~~prevents which is configured to prevent~~ liquid from flowing from the reload chamber towards the source of liquid to be pumped; and

a receiver in fluid communication with means for storing pressurized liquid ~~connected to the second passageway, wherein the receiver is configured for storing receiving pressurized liquid displaced hydraulic fluid displaced below the piston~~, as the piston moves downwardly, and wherein the receiver is configured to assist in raising the piston ~~and, accordingly, liquid contained within the piston rod, to pump liquid upwardly and through the first passageway.~~

2. (Currently amended) The apparatus of [[claim]]Claim 1 wherein the receiver is configured to store a hydraulic fluid ~~means for storing pressurized liquid includes a body of~~ liquid.

3. (Currently amended) The apparatus of [[claim]]Claim 2, including further comprising a pump connected to the receiver and configured to assist in raising ~~body of liquid for pumping liquid into the cylinder below the piston to raise the piston.~~

4. (Currently amended) The apparatus of [[claim]]Claim 3, wherein the pump connected to the receiver is a piston type pump.

5. (Currently amended) The apparatus ~~as claimed in of~~ [[claim]]Claim 4, wherein the pump connected to the receiver is situated above the second passageway.

6. (Currently amended) The apparatus of [[claim]]Claim 3, wherein the pump connected to the receiver is a centrifugal pump.

7. (Currently amended) The apparatus of ~~[[claim]]~~Claim 6, ~~including a sixth passageway for passage of liquid adjacent to the bottom of the cylinder, a first conduit connecting the sixth passageway to the pump and a second conduit connecting the second passageway to the body of liquid further comprising a fifth passageway in the vertically oriented cylinder, a first conduit connecting the fifth passageway to the receiver, and a second conduit connecting the pump connected to the receiver to the second passageway, wherein the fifth passageway is situated below the second passageway.~~

8. (Cancelled)

9. (Currently amended) The apparatus of ~~[[claim]]~~Claim 8 7, including further comprising a third one-way pressure-release valve adjacent to the second fifth passageway in the second conduit.

10. (New) A system for pumping, the system comprising:

a first chamber having a top interior surface, a bottom interior surface, and interior side surfaces;

a piston and piston rod component, wherein the piston portion of the component is disposed within the first chamber, the piston portion of the component having a first surface, wherein the first surface is slidably disposed within the interior side surfaces, wherein the piston rod portion of the component has a bottom portion and a surface opposite to the first surface of the piston portion of the component, wherein the bottom portion extends through a first aperture in a bottom of the first chamber, wherein the first surface has a larger area than the surface opposite, and wherein the piston and piston rod component has an aperture extending from the first surface to the surface opposite and configured for passage of liquid therethrough;

a first valve situated adjacent to the top interior surface of the first chamber and above the first surface;

a second valve in the first chamber located below the first surface;

a second chamber configured to contain a pressurized liquid or a pressurized gas, in fluid contact with the second valve;

a first one-way valve disposed in the bottom portion of the piston rod portion of the component;

a third chamber having a second aperture, the third chamber comprising an interior side surface, wherein the bottom portion of the piston rod portion of the component is disposed within the second aperture, wherein a surface of the bottom portion of the piston rod portion of the component does not contact the interior side surface of the third chamber; and

a second one-way valve disposed within the second chamber.

11. (New) The system of Claim 10, wherein the second chamber is a canister.
12. (New) The system of Claim 10, further comprising a pump associated with the second chamber.
13. (New) The system of Claim 12, wherein the pump is a piston-type pump.